



Chicago Metropolitan  
Agency for Planning

# **Intermodal Freight Connectors: Pavement Condition 2009 Update**

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TABLE OF CONTENTS

1. Executive Summary .....	1
2. Introduction.....	2
3. Background on the NHS and Intermodal Freight Connectors .....	2
4. Intermodal Connectors Roadway Characteristics.....	2
4.1 Jurisdiction Trends.....	3
4.2 Functional Classification Trends .....	4
5. Overview of Conditions as of 2009 .....	5
5.1 Regional Conditions .....	7
5.2 Facility Level Overview .....	11
6. Summary .....	13
7. References .....	14

Appendix A: Intermodal Freight Facility Pavement Condition Tables

Appendix B: Intermodal Connector Review Map Series  
CRS Ratings from IRIS 2009

## LIST OF EXHIBITS

Exhibit 1: Connector Status in the Chicago Region .....	3
Exhibit 2: Jurisdiction Responsibility of Connectors in the Chicago Region .....	3
Exhibit 3: Maintenance Responsibility of Connectors in the Chicago Region .....	4
Exhibit 4: Functional Classification Codes for HPMS and IRIS .....	4
Exhibit 5: Functional Classifications for Connectors in the Chicago Region .....	5
Exhibit 6: CRS Condition Rating and IRI Criteria for Acceptable Ride Quality .....	5
Exhibit 7: Intermodal Freight Connectors - Regional CRS Conditions .....	7
Exhibit 8: Regional Connectors CRS Condition by Status .....	8
Exhibit 9: Regional Connectors CRS Condition by Jurisdiction .....	9
Exhibit 10: Regional Connectors CRS Condition by Functional Class .....	10
Exhibit 11: Facility Connector Conditions by % Route-miles CRS Rating Good + .....	11
Exhibit 12: Connector Mileage and CRS Data Status .....	12

# Intermodal Freight Connectors Pavement Condition 2009 Update

## 1. Executive Summary

CMAP has compiled an overview of pavement conditions for *intermodal freight connectors* in the Chicago region, using Condition Rating Survey (CRS) data from the 2009 IDOT database. The intermodal freight connectors were added to the National Highway System (NHS) between 1996 and 1999, based on FHWA guidelines to identify roadways that provide access between major intermodal freight facilities, and the principal arterials and expressways of the NHS. The importance of the intermodal freight connectors from the perspective of the FHWA has been summarized on the Office of Operations - [Freight Management and Operations NHS Connectors](#) webpage as follows:

*National Highway System (NHS) connectors are the public roads leading to major intermodal terminals. Although they account for less than 1 percent of NHS mileage, NHS Connectors are key conduits for the timely and reliable delivery of goods. Hence it is important to evaluate the condition and performance of connectors and related investment.*

CMAP staff conducted a review of Condition Rating Survey (CRS) data contained within IDOT's Illinois Roadway Information System (IRIS) 2009 end of year GIS database for all roadways identified as intermodal freight connectors in the Chicago region and compared these results with 2006 IRIS data. This data will support CMAP's congestion management process performance measurement system.

Initially this paper intended to focus on IRI ride quality data, since that measure is used by FHWA to describe ride quality/pavement conditions on a national level. However, based on the limited data availability of IRI data for roadways at these lower functional classes in both the 2006 and 2009 IRIS databases, this review relied on the more current and more complete CRS data. Since there is no available comparison data for freight connector pavement condition on the national level, observations from this analysis can only serve as regional benchmarks for comparison purposes.

As of 1999, there were 27 major intermodal freight facilities in the Chicago region. Since that time, one additional facility opened in 2002, and two (2) facilities closed.

From a regional perspective, as of 2009, approximately 52.6% ( up from 46.8% in 2006) of intermodal freight connectors route-miles in the Chicago region showed CRS values greater than or equal to 7.0, which translates to Good or better (Good +) pavement conditions. At the facility level, while it remains important to consider each facility separately, more facilities show higher percentages of Good+ connector route-miles:

- six (6, down from 8 in 2006) facilities showed less than 30% of connector route-mile pavement conditions of Good +;
- nine (9, down from 11 in 2006) facilities showed between 30% and 70% of Good + route-miles, and;
- eleven (11, up from 8 in 2006) facilities showed more than 70% of route-miles in Good + condition.

## **2. Introduction**

The purpose of this report is to describe overall roadway system characteristics, and to provide an overview of pavement conditions for *intermodal freight connectors* (connectors) to the National Highway System (NHS) in the Chicago region. In order to compile this overview, CMAP staff conducted a review of Condition Rating Survey (CRS) data contained within IDOT's Illinois Roadway Information System (IRIS) 2009 end of year GIS database. Staff extracted data for the Chicago region in order to develop a Microsoft Access database for analysis purposes, and to generate preliminary GIS applications. In CMAP's *Highway Ride Quality in the Chicago Region* report, November 2009, analysis focused on International Roughness Index (IRI) data from IRIS 2006 and Highway Performance Monitoring System (HPMS) 2003. Due to the limited data availability of IRI data for roadways at the lower functional classes, this report only focused on CRS data, with brief references to IRI data.

This report is intended to provide a preliminary snapshot of pavement conditions as of 2009, comparison of 2009 results to 2006 IRIS data, and to offer background for the development of performance measures related to pavement conditions for the intermodal freight connectors to the NHS in the Chicago region. Analysis in this report relied on data quality of the IRIS 2009 end of year GIS database, and did not involve new field observation by CMAP staff. Please note that seventy-six percent (76%) of regional connector route-miles included IRIS CRS data that was reported between 2006 and 2009.

## **3. Background on NHS and Intermodal Freight Connectors**

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) established the National Highway System (NHS) to be the focus for federal aid highway programs into the 21st century. The issue of providing effective access to major intermodal facilities from the NHS was recognized by the Federal Highway Administration (FHWA), specifically because it opened additional options to identify and fund roadway improvements which would enhance access to these facilities. In the case of freight, this meant providing for improved roadway access to major intermodal freight facilities for trucking operations.

See the original edition of November 2009 edition (1) of this report for an expanded discussion of intermodal freight connectors background and history.

According to the [FY2008 C&P Report](#) (2), while the NHS makes up only 4% of total U.S. mileage, the NHS carried more than 45% of total U.S. travel in 2006. As a result, FHWA has emphasized NHS roadways with regards to national performance measures. As part of the NHS, and as vital links in the freight network, pavement condition of the intermodal freight connectors is an important consideration in the region.

## **4. Intermodal Connectors Roadway Characteristics**

Key data items discussed in the *FY2008 C&P Report* (3) related to roadway ownership and functional classification, with a particular focus on National Highway System (NHS) routes. As shown in Exhibit 1, analysis in this paper focused on the following four categories of roadways that have previously been identified as intermodal freight connectors:

Exhibit 1: Connector Status in the Chicago Region

Status	2006		2009	
	Total Route-miles	% of Total	Total Route-miles	% of Total
<i><u>Connector</u></i> Previously identified as a connector - no expected change	48.13	71.9%	45.85	72.9%
<i><u>Proposed</u></i> Connector to be proposed - new facility.	9.84	14.7%	5.55	8.8%
<i><u>Review</u></i> Previously identified as a connector - review may be warranted	7.17	10.7%	6.98	11.1%
<i><u>Withdrawn</u></i> Previously identified as a connector - subsequently withdrawn	1.84	2.7%	4.49	7.1%
<b>Grand Total</b>	<b>66.98</b>	<b>100.0%</b>	<b>62.87</b>	<b>100.0%</b>

Since the original report that was based on 2006 IRIS data, two facilities ( IL10R 26<sup>th</sup> Street, and IL27R Naperville AT) have closed and are now considered as withdrawn pending the formal process. These changes account for the slight decrease in total route-miles for connectors, and the increase for the withdrawn category. The overall decline in total connector route-miles was primarily due to a reduction in proposed miles for Logistics Park. Appendix A includes detailed breakdowns for individual facilities and connector categories.

#### 4.1 Jurisdictional Trends

While the *FY2008 C&P Report* discussed ownership, the IRIS database included data items for Jurisdiction (*data item 12*) and Maintenance Responsibility (*data item 13*). As shown in Exhibit 2, as of 2009, approximately 80% of connectors in the region were under two jurisdictions, either IDOT or municipal. The major agency responsibilities lie with City of Chicago, IDOT District 1 and Cook County; to a lesser degree the municipalities of Bedford Park (3.8 miles) and Hodgkins (1.8 miles); and potentially, Will County with a several miles of proposed connectors.

Changes since 2006: IDOT jurisdictional responsibility has declined while municipal and county have increased. The elimination of a proposed connector on IL 53 for the Logistics Park facility reduced IDOT jurisdictional mileage by almost 9 miles. Also, county jurisdiction increased by approximately 3 miles, with a similar decline in connector mileage under municipal jurisdiction.

Exhibit 2: Jurisdiction Responsibility of Connectors in the Chicago Region

Jurisdiction	2006		2009	
	Total Route-miles	% of Total	Total Route-miles	% of Total
IDOT	27.57	41.2%	18.74	29.8%
County	10.63	15.9%	13.49	21.5%
Municipality	28.25	42.1%	30.11	47.9%
Township	0.53	0.8%	0.53	0.8%
<b>Grand Total</b>	<b>66.98</b>	<b>100.0%</b>	<b>62.87</b>	<b>100.0%</b>

A review of Exhibit 3, indicates that there is only a small degree of variation between jurisdiction and maintenance responsibilities. The IRIS data showed only a few cases in which maintenance responsibilities had been transferred from the county to the municipal level.

Exhibit 3: Maintenance Responsibility of Connectors in the Chicago Region

Maintenance	2006		2009	
	Total Route-miles	% of Total	Total Route-miles	% of Total
IDOT	27.37	40.9%	18.56	29.5%
County	5.17	7.7%	8.02	12.8%
Municipality	33.89	50.6%	35.76	56.9%
Township	0.53	0.8%	0.53	0.8%
Grand Total	66.98	100.0%	62.87	100.0%

Changes since 2006: IDOT maintenance responsibility declined while municipal and county have increased. The elimination of a proposed connector on IL 53 for the Logistics Park facility reduced IDOT maintenance mileage by almost 9 miles. Also, county maintenance responsibility increased by approximately 3 miles, while connector mileage under municipal jurisdiction increased by about 2 miles.

Even in cases where maintenance may have been contractually shifted to another agency, primary responsibility remains with the jurisdictional agency. Appendix A includes detailed jurisdiction and maintenance breakdowns for individual facilities.

#### 4.2 Functional Classification Trends

A comparison between the HPMS and IRIS Functional Classification coding systems is shown in Exhibit 4. Since the primary data source was the IDOT 2009 IRIS GIS database, this paper will only refer to the IRIS coding system. However, since the intermodal freight connectors are part of the NHS, this table may be a useful reference in future updates which may involve HPMS database information.

Exhibit 4: Functional Classification Codes for HPMS and IRIS

HPMS Codes		Functional Classification	IRIS Code
Rural	Urban		
01	11	Interstate	10
	12	Freeway / Expressway	20
02	14	Other Principal Arterials	30
06		Minor Arterials (Non-Urban)	40
07		Major Collector (Non-Urban)	50
08		Minor Collector (Non-Urban)	55
09		Local Road or Street (Non-Urban)	60
	16	Minor Arterial (Urban)	70
	17	Collector (Urban)	80
	19	Local Road or Street	90

Sources: HPMS field manual (4), and IRIS manual (5)

In the *FY2008 C&P Report (2)*, the primary emphasis was on the higher functional classes of Interstate, Freeway/Expressway, and Principal Arterials; which clearly serve as the most vital roadways in any region. However, by definition, connectors needed to be identified and added to the NHS, because they were mostly lower functional classification roadways that would not normally qualify for the NHS. As a result, as shown in Exhibit 5, almost 80% of intermodal freight connectors were classified as minor arterials and collectors in the IRIS database.

Exhibit 5: Functional Class for Connectors in the Chicago Region

Functional Class	2006		2009	
	Total Route-miles	% of Total	Total Route-miles	% of Total
30 Principal Arterials	15.01	22.4%	7.71	12.3%
70 Minor Arterial (Urban)	27.40	40.9%	27.7	44.1%
80 Collector (Urban)	20.13	30.1%	21.74	34.6%
90 Local Road or Street	4.44	6.6%	5.72	9.1%
Grand Total	66.98	100.0%	62.87	100.0%

Changes since 2006: The elimination of a proposed connector on IL 53 for the Logistics Park facility reduced principal arterials mileage by more than 7 miles, with only slight changes in the other functional classifications.

## 5. Overview of Conditions as of 2009

IDOT utilizes the Condition Rating Survey (CRS) system to assess pavement quality state-wide. The CRS system includes numerous inputs, including IRI data, to develop comprehensive pavement condition assessments. IDOT reports the IRI values to the FHWA, who in turns incorporates the data into the HPMS. FHWA then uses this data to assess ride quality as a measure of pavement condition on a national level that is reported in the C&P Reports. Ride quality is measured with IRI data and discussed in terms of pavement ride quality that is either acceptable or not acceptable, as shown in Exhibit 6.

Exhibit 6: CRS Condition Rating and IRI Criteria for Acceptable Ride Quality

CRS Pavement Condition Ratings		IRI Ride Quality Criteria	
CRS	General Condition	Ride Quality	IRI Rating
9.0	Awarded, new or near new	Acceptable	≤ 170
8.0	Excellent		
7.0	Good		
6.0	Fair	Not Acceptable	> 170
5.0	Marginal		
4.0	Poor		
3.0	Intolerable		
2.0	Crucial		
1.0	Critical		
0.0	Not collected		

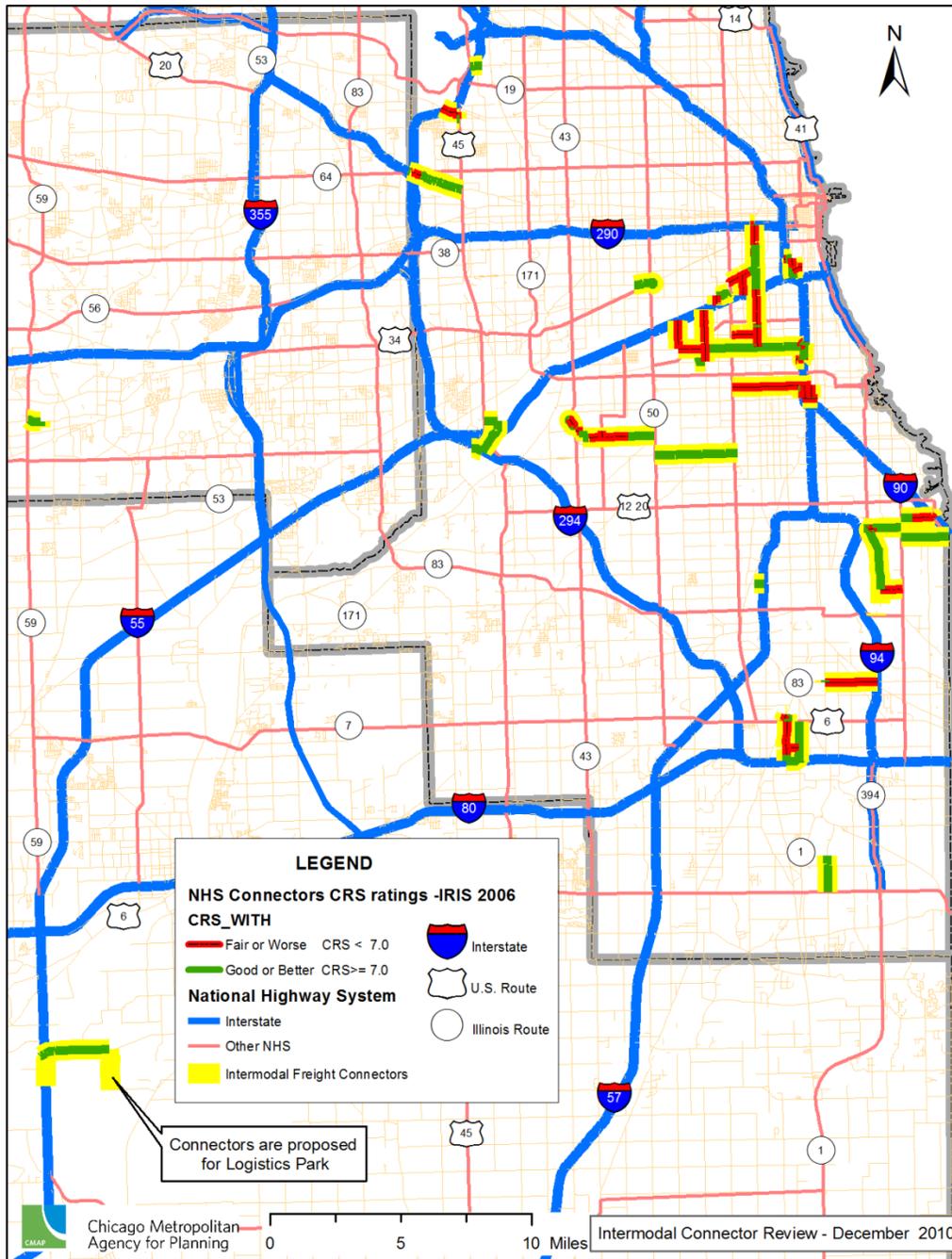
Source: IRIS Manual (5)

For the purposes of this paper, a logical but somewhat arbitrary, comparison was implied between Good or better (Good +) CRS pavement conditions ( $CRS \geq 7.0$ ), and acceptable Ride Quality ( $IRI \leq 170$ ). In fact, IRI is only one of the factors considered in the more comprehensive CRS pavement condition system. In October 2010, IDOT published the [FY2010 Condition Rating Survey Summary Report](#) (6), which considered the Good condition category to include CRS values from 6.1 to 7.5. Since this report is an update of a previous CMAP report, we have maintained the same definition of Good+ pavement condition ( $CRS \geq 7.0$ ). Generally speaking, application of the definition of  $CRS \geq 6.1$  as Good or better pavement condition would increase the Good+ mileage estimates in this report by approximately 18%.

## 5.1 Regional Conditions

This section presents a regional overview of pavement conditions for intermodal freight connectors, based on available CRS data from the IRIS 2009 database.

Exhibit 7: Intermodal Freight Connectors - Regional CRS Conditions



Intermodal Connector Route-miles	Route-miles			Percentages	
	CRS < 7.0 < Good	CRS >= 7.0 Good +	Grand Total	CRS < 7.0 < Good	CRS >= 7.0 Good+
2006 Total	35.63	31.35	66.98	53.2%	46.8%
2009 Total	29.79	33.08	62.87	47.4%	52.6%

As shown in Exhibit 7, 52.6% of the regional intermodal freight connector route-miles show pavement condition of Good + as of 2009.

Initially this paper was intended to focus on IRI ride quality data, since that measure is used by FHWA to describe pavement conditions on a national level. However, based on the limited data availability of IRI data for roadways at these lower functional classes in both the 2006 and 2009 IRIS databases, this review relied only on the more current and more complete CRS data. Since there is no available comparison data for CRS pavement condition ratings on the national level, observations from this analysis can only serve as benchmarks for future regional reviews.

A review of pavement condition by connector status is shown in Exhibit 9. As of 2009:

- the connector category (previously identified as a connector - no expected change) showed 54.8% of route-miles as Good + pavement condition; up from 45.6% in 2006.
- the review category (previously identified as a connector – review may be warranted) showed 29.8% of route-miles as Good + pavement condition; down from 53.0% in 2006.
- As a combined group roadways currently classified as connectors showed 51.5% of route-miles as Good + pavement condition; up from 44.8% in 2006.

Exhibit 8: Regional Connectors CRS Condition by Status

Connector Status	2006 Route-miles			2006 Percentages	
	CRS < 7.0 < Good	CRS ≥ 7.0 Good +	Grand Total	CRS < 7.0 < Good	CRS ≥ 7.0 Good +
<u>Connector</u>	26.19	21.94	48.13	54.4%	45.6%
<u>Proposed</u>	5.82	4.02	9.84	59.1%	40.9%
<u>Review</u>	3.37	3.80	7.17	47.0%	53.0%
<u>Withdrawn</u>	0.25	1.59	1.84	13.6%	86.4%
Grand Total	35.63	31.35	66.98	53.2%	46.8%

Connector Status	2009 Route-miles			2009 Percentages	
	CRS < 7.0 < Good	CRS ≥ 7.0 Good +	Grand Total	CRS < 7.0 < Good	CRS ≥ 7.0 Good +
<u>Connector</u>	20.71	25.14	45.85	44.8%	54.8%
<u>Proposed</u>	2.86	2.69	5.55	51.5%	48.5%
<u>Review</u>	4.9	2.08	6.98	74.1%	29.8%
<u>Withdrawn</u>	1.32	3.17	4.49	29.4%	70.6%
Grand Total	29.79	33.08	62.87	47.4%	52.6%

The *proposed* connector category pertained exclusively to connectors that have been proposed for the Logistics Park BNSF facility in Elwood, Illinois. The 2009 data, showed 48.5% (up from 40.9% in 2006) of route-miles for this facility as Good+. Since the connectors proposed for this facility were dramatically reduced based on the elimination of the IL 53 portion, it does not make sense to attempt a comparison to 2006 conditions.

A review of pavement condition by jurisdiction is shown in Exhibit 9. Almost 80% of connector route-miles were under IDOT and Municipal jurisdiction. IDOT jurisdictions showed 61.6% (up from 37.9% in 2006) of route-miles as Good +, and municipal jurisdictions showed 41.3% (down slightly from 45.6% in 2006) of route-miles as Good + pavement condition. County jurisdictions showed the best with 65.5% (down slightly from 73.1% in 2006) of route-miles as Good + pavement condition.

Exhibit 9: Regional Connectors CRS Condition by Jurisdiction

Jurisdiction	2006 Route-miles			2006 Percentages	
	CRS < 7.0 < Good	CRS ≥ 7.0 Good +	Grand Total	CRS < 7.0 < Good	CRS ≥ 7.0 Good +
IDOT	17.12*	10.45	27.57*	62.1%*	37.9%*
County	2.86	7.77	10.63	26.9%	73.1%
Municipality	15.37	12.88	28.25	54.4%	45.6%
Township	0.28	0.25	0.53	52.8%	47.2%
Grand Total	35.63	31.35	66.98	53.2%	46.8%

\* impacted by elimination of 9 miles of proposed connectors on IL 53

Jurisdiction	2009 Route-miles			2009 Percentages	
	CRS < 7.0 < Good	CRS ≥ 7.0 Good +	Grand Total	CRS < 7.0 < Good	CRS ≥ 7.0 Good +
IDOT	7.19	11.55	18.74	38.4%	61.6%
County	4.66	8.83	13.49	34.5%	65.5%
Municipality	17.66	12.45	30.11	58.7%	41.3%
Township	0.28	0.25	0.53	52.8%	47.2%
Grand Total	29.79	33.08	62.87	47.4%	52.6%

There was an apparent improvement in pavement conditions under IDOT jurisdiction, from 37.9% to 61.6%. As shown in Exhibit 9, there was actually only a 1.1 route-mile increase in Good+ condition from 10.45 miles in 2006 to 11.55 miles in 2009. The elimination of 9 miles of proposed connectors on IL 53 resulted in removing almost 9 miles of IDOT route-miles with less than good pavement condition. A recalculation of the originally reported 2006 data would reduce the 17.12 miles in less than Good condition to 8.12 miles, and improve the 2006 Good+ percentage from 37.9% to approximately 56%. As a result, the adjusted improvement in pavement conditions under IDOT jurisdiction would be more modest, from 56% to 61.6%.

A review of pavement condition by functional classification is shown in Exhibit 10.

Over 70% of regional connectors were classified as minor arterial or collector with Good + pavement condition ratings of 70.0% Good+ (up from 58.5% in 2006) for minor arterials; and 38.8% Good+ (down from 43.8% in 2006) for collectors. Connectors classified as local roads showed the worst conditions with only 19.2% Good+ (up slightly from 18.5% in 2006).

As of 2009, connectors classified as principal arterials showed 55.5% (up from 37.9% in 2006) of route-miles as Good+. However, the elimination of the 9 miles of proposed connectors on IL 53, and a number of other minor changes, resulted in a net reduction of 7 miles 2006 principal arterial route-miles which happened to be mostly in less than good pavement condition. A recalculation of the originally reported 2006 data would reduce the 9.32 miles in less than Good condition to 2.32 miles, and improve the 2006 Good+ percentage from 37.9% to approximately 70%. This adjustment would result in a decline of pavement conditions for principal arterials, from 70% to 55.5%.

Exhibit 10: Regional Connectors CRS Condition by Functional Class

Functional Class	2006 Route-miles			2006 Percentages	
	CRS < 7.0 < Good	CRS ≥ 7.0 Good +	Grand Total	CRS < 7.0 < Good	CRS ≥ 7.0 Good +
30 Principal Arterials	9.32*	5.69	15.01*	62.1%*	37.9%*
70 Minor Arterial (Urban)	11.37	16.03	27.40	41.5%	58.5%
80 Collector (Urban)	11.32	8.81	20.13	56.2%	43.8%
90 Local Road or Street	3.62	0.82	4.44	81.5%	18.5%
Grand Total	35.63	31.35	66.98	53.2%	46.8%

\* directly impacted by elimination of 9 miles of proposed connectors on IL 53

Functional Class	2009 Route-miles			2009 Percentages	
	CRS < 7.0 < Good	CRS ≥ 7.0 Good +	Grand Total	CRS < 7.0 < Good	CRS ≥ 7.0 Good +
30 Principal Arterials	3.43	4.28	7.71	44.5%	55.5%
70 Minor Arterial (Urban)	8.32	19.38	27.7	30.0%	70.0%
80 Collector (Urban)	13.42	8.32	21.74	61.7%	38.3%
90 Local Road or Street	4.62	1.1	5.72	80.8%	19.2%
Grand Total	29.79	33.08	62.87	47.4%	52.6%

## 5.2 Facility Level Overview

This section presents a facility-level overview of pavement conditions for intermodal freight connectors in the Chicago region, based on available CRS data from the IRIS 2009 database.

Exhibit 11: Facility Connector Conditions by % Route-miles CRS Rating Good +

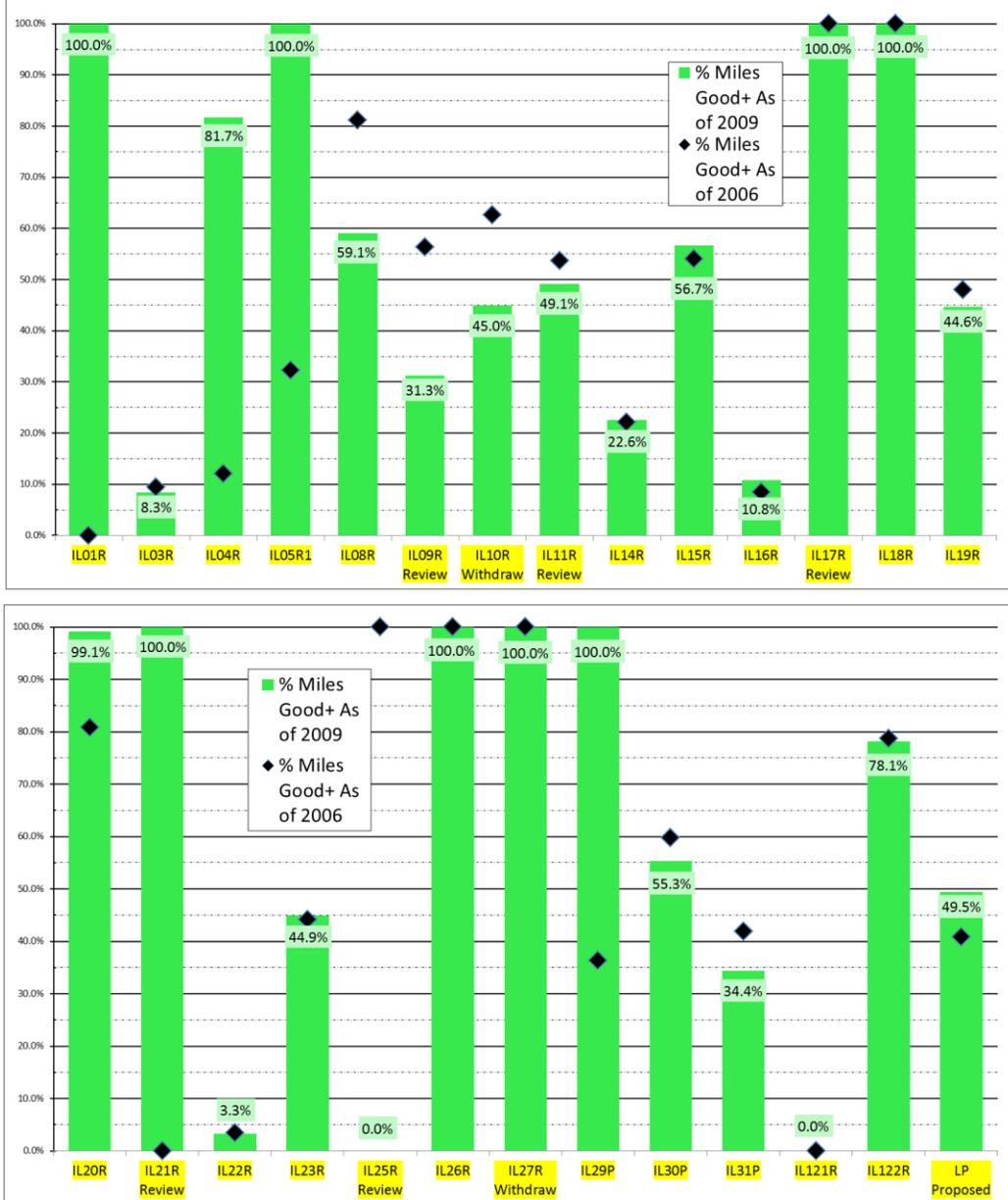


Exhibit 11 shows all 27 qualified major intermodal freight facilities in the Chicago region, and the % of route-miles rated as Good + (CRS  $\geq$  7.0) for all associated connectors. Based on CMAP's review of 2009 IRIS data: two facilities (IL25R and IL121R) showed 0.0% of connector route-miles reported in Good + condition, and nine facilities (IL01R, IL05R, IL17R, IL18R, IL20R, IL21R, IL26R, IL27R, and IL29R) showed essentially 100.0 % of connector route-miles reported as Good + condition. Of the 27 intermodal facilities shown on this exhibit, most are active operational facilities, five warrant review

(temporarily inactive/closed or may no longer qualify as major intermodal facilities), two are considered withdrawn since they have closed (although they have not yet been formally withdrawn), and one facility is fully operational, but is shown as proposed pending a formal acceptance process.

Observations on facility level pavement condition include:

- six (6) facilities showed significantly improved pavement quality over the period 2006 to 2009 (IL01R, IL04R, IL05R, IL20R, IL21R, and IL29R),
- four (4) facilities show significantly declining pavement condition (IL08R, IL09R, IL10R, and IL25R). Of these, only IL08R is considered an active operational facility; while the other three are in the *Review* or *Withdrawn* category.

Exhibit 12: Connector Route-Miles and CRS Data Status

Facility ID	Facility Name	2009 Route-Miles	CRS Data Status (%Updated)
IL01R	Schiller Park	0.46	100%
IL03R	Bensenville	0.96	100%
IL04R	Global II	2.28	100%
IL05R1	Cicero	0.92	100%
IL08R	Global I	2.96	100%
IL09R Review	Western Avenue	2.59	68%
IL10R Withdraw	26th St	1.49	93%
IL11R Review	Railport	5.77	91%
IL14R	Corwith	4.60	100%
IL15R	47th St	1.20	21%
IL16R	63rd St	2.50	56%
IL17R Review	Forest Hill	0.14	100%
IL18R	Landers	3.03	100%
IL19R	Bedford Park	4.10	27%
IL20R	Willow Springs	2.33	61%
IL21R Review	Iowa Interstate	0.37	100%
IL22R	Yard center	2.13	100%
IL23R	Moyer	3.23	100%
IL25R Review	IMX	0.18	100%
IL26R	Triple Crown	0.35	100%
IL27R Withdraw	Naperville AT	0.71	0%
IL29P	Water Terminal 1	2.91	100%
IL30P	Water Terminal 2	4.23	76%
IL31P	Water Terminal 3	1.31	100%
IL121R	59th St	2.68	0%
IL122R	CN Gateway	1.60	84%
LP Proposed	Logistics Park	5.55	50%
All Facilities		60.58	76%

Exhibit 12 shows connector route-miles and the CRS data status for all the intermodal facilities in the region. The 2009 IRIS dataset used by CMAP in this review included a CRS year (*data item 46*) that indicated the year that the CRS value was updated. Region-wide 76% of the connector route-miles were updated over the time period of 2006 through 2009.

Observations on CRS data status include:

- fifteen (15) of the facilities had 100% of connector route-miles reported CRS Year as 2006 or later,
- eight (8) had 50% or more of connector route-miles reported CRS Year as 2006 or later, and
- four (4) had less than 50% of connector route-miles reported CRS Year as 2006 or later.
- Connector route-miles under IDOT and county jurisdictions appeared to have the most current CRS data updated 2006 or later.
- Connector route-miles under municipal and township jurisdictions appeared to have the most CRS data that has not been updated after 2006.

Appendix A includes detailed breakout tables for each intermodal freight facility and each associated connector roadway based on CRS pavement condition ratings. Appendix B consists of a map series showing all facilities with CRS pavement condition coded as *Good +* ( $CRS \geq 7.0$ ) or *Fair or Worse* ( $CRS < 7.0$ ) for all connector status levels. These maps also include previously identified facility entrance and exit gate locations, which were important considerations during the original connector reviews in 1995 and 1999. Additional data caveats are included as notes in the appendices. For additional detailed information on the individual facilities and the formal FHWA process, please refer to CATS report: *Proposed Intermodal Connectors to the NHS for Northeastern Illinois*, Version 3, June 1999.

## 6. Summary

From a regional perspective, there are indications of improving pavement conditions for intermodal freight connectors. As of 2009, approximately 52.6% ( up from 46.8% in 2006) of intermodal freight connectors route-miles in the Chicago region showed CRS values greater than or equal to 7.0, which translates to Good or better (Good +) pavement conditions. At the facility level, while it remains important to consider each facility separately, more intermodal freight facilities show higher percentages of Good+ connector route-miles:

- six (6, down from 8 in 2006) facilities showed less than 30% of connector route-mile pavement conditions of Good +;
- nine (9, down from 11 in 2006) facilities showed between 30% and 70% of Good + route-miles, and;
- eleven (11, up from 8 in 2006) facilities showed more than 70% of route-miles in Good + condition.

## 7. References

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